Attachment to Data Center Services Multisourcing Service Integrator Master Services Agreement

DIR Contract No. DIR-DCS-MSI-MSA-001

Between

The State of Texas, acting by and through the Texas Department of Information Resources

and

Capgemini America, Inc.

Attachment 8-B
HCI Technical Solution

May 31, 2016

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About this Document

Introduction

In accordance with **Section 4.1** of the Agreement, this **Attachment 8-B** describes the Service Provider's technical solution for the Hybrid Cloud Initiative (HCI) and overall approach to providing the Services. These descriptions should contain sufficient detail for technical staff to understand the overall approach, key changes, and timeframes associated with the solution. These descriptions address processes, procedures, management controls and other factors of the overall solution being provided.

Service Provider shall maintain and implement the solution; any modifications to the HCI technical solution and overall approach shall be subject to DIR's review and approval in accordance with **Section 4.1** of the Agreement.

The provisions of this **Attachment 8-B** are in addition to, and not in lieu of, the terms and conditions contained in the body of the Agreement and the other Exhibits and Attachments thereto; provided however, unless otherwise expressly stated, the provisions shall not control over conflicting provisions of the Agreement. Unless otherwise expressly defined in this **Attachment 8-B**, capitalized terms shall have the meaning assigned to them elsewhere in the Agreement.

1.0 Executive Summary

Capgemini is pleased to present a solution to the Texas Department of Information Resources (DIR) to meet the goals of the Hybrid Cloud Initiative (HCI).

This effort is the result of ongoing dialogue with DIR and our understanding of the needs of DCS Customers, and incumbent Service Component Providers (SCPs). We will help DIR achieve its goals:

Innovate and Evolve the Service Offerings:	DIR's MSI and SCPs have matured since the inception of the existing agreements and DIR has gained a level of trust in the existing SCPs. This approach allows for investment in automation to improve availability, quality and cost of operations in both the existing (on premise) and future (cloud) environments. The solution utilizes Capgemini's industry-leading tools and practices, and conforms to our evolved MSI Framework.
Drive Cost Competitiveness & Transparency:	We will leverage our experience helping clients determine and implement DCS Customer billing scenarios to help DIR achieve effective comparisons of market services at market rates.

2.0 Technical Solution

2.1 Solution Overview

Capgemini's Service Integration (SI) Practice provides people, processes, and tooling to integrate the services of an ecosystem of internal and external service providers. It enables a comprehensive range of integration, including disciplines in operations, projects, performance, and planning, all targeted at transforming the IT function.

service integration

[**sur**-vis] [in-ti-**grey**-shuh n]

noun, *Information Technology*.

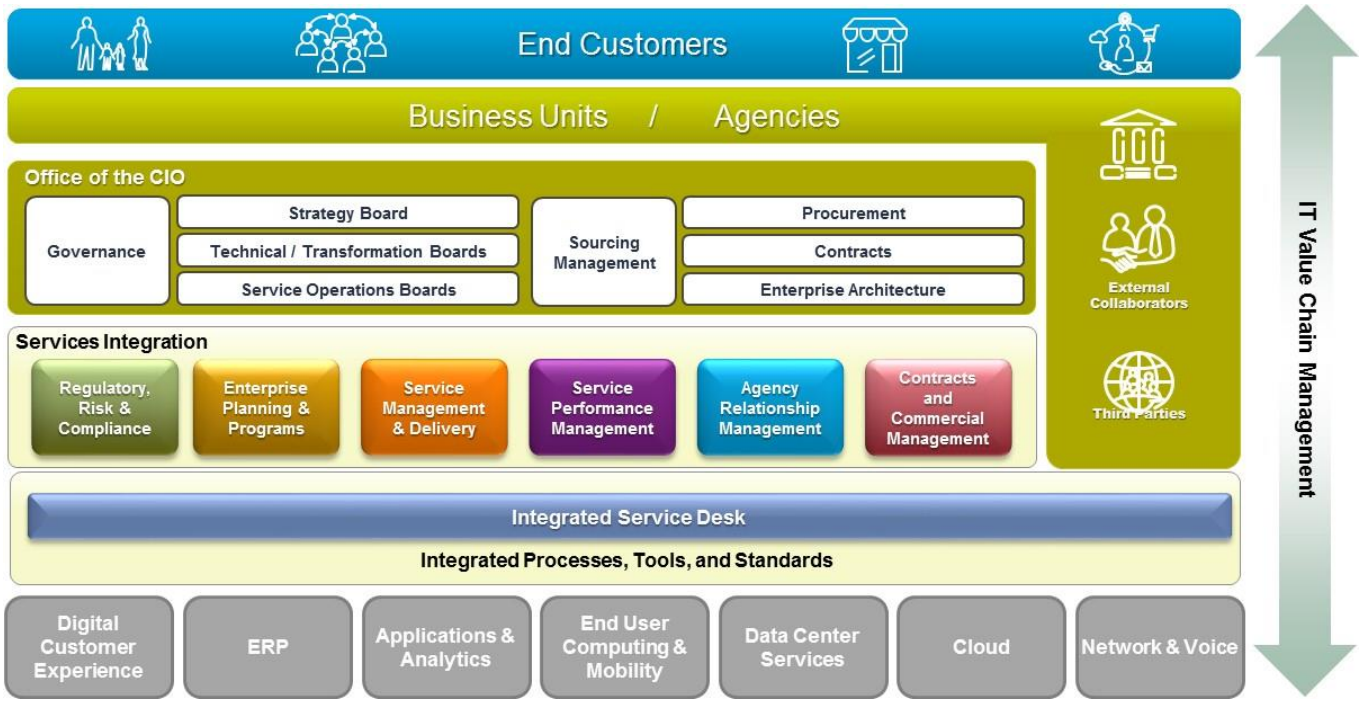
1. The management of separately contracted and supplied IT services to ensure they consistently work together to deliver business benefits.
2. The Service Integrator is the primary operational interface between the end client and its IT Service Providers and is accountable for service performance.

Origin of Service Integration

Capgemini Service Management Practice

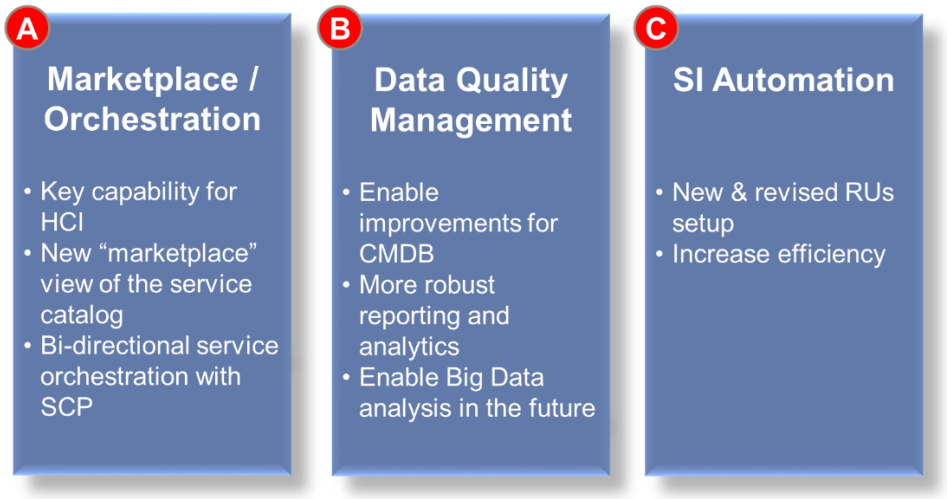
The diagram below shows our standard framework for how the services are delivered. It's similar to the model that was put in place in 2012 when Capgemini was awarded the Multi-sourcing Service Integrator contracts for the DIR DCS Program. We've re-engineered the way that some of the processes flow, and we've introduced Supply Chain thinking into how the processes are managed end-to-end with the SCPs, but it's served as a strong framework around which to build the DCS Program.

Capgemini's Standard SI Framework

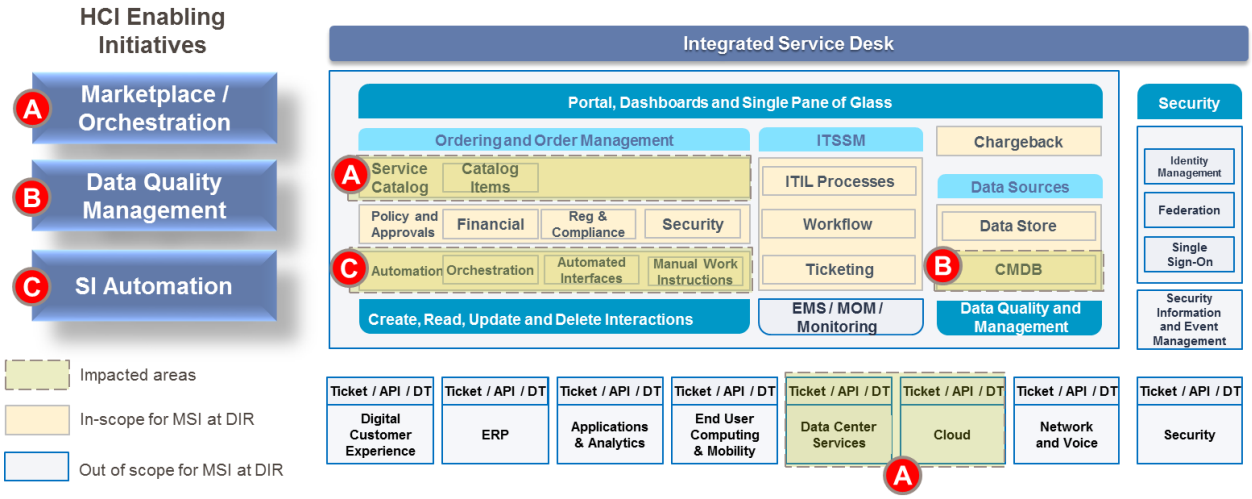


While we normally emphasize People, **Process** and Technology because of the maturity of the processes deployed in the DCS environment, we want to change the emphasis to People, Process and **Technology**. Capgemini proposes to deploy additional tools and technologies to enable the Hybrid Cloud Initiative for DCS.

HCI Enabling Initiatives



Areas Impacted and Improved by the HCI Enabling Initatives



2.2 Solution Scope

The solution scope has been defined as below:

Initiative	Scope

Marketplace	• Web landing page via SSO for new cloud services
	• Up to 20 services to select from – these include the combination of
	  • 3 Vendors (AWS, Azure, Atos)
	  • 2 Types (Compute, Storage)
	  • 3 Key actions (add, change, delete)
	• Cart functionality (can save multiple)
	• Pricing when services are selected
	• Dashboard "lite" – status of service request, report on cart aging
	• DIR specific look/feel (logo)
	• Business rules for service selection (simplified)
	• Approval workflow for Marketplace services
	• Integration with SCP platform
	• Integration with ITSM
	• "Marketing" web page open to the public for advertising the DIR cloud services – minimal content at launch

DQM	• Stand up capability • Improve CMDB data • Improve ITFM data

SI Automation	• New & revised RUs setup
	• Increase efficiency via
	  • Improve CMDB and ITFM ecosystem (existing tools in conjunction with DQM)
	  • DR test reservation process
	  • Invoice data feeds
	  • Knowledge Management reports

3.0 Equipment, Material, and Tools

3.1 New Tools

Two new product sets will be introduced: the first is the Marketplace platform, and the second is the Data Quality Management tool set.

3.1.1 Marketplace Platform

Capgemini will develop the Marketplace using the Kinetics Data platform to meet the business requirements as well as provide a framework that can evolve quickly to future DIR needs.

3.1.1.1 Marketplace Portal

The Marketplace Portal will be accessed via the existing DCS portal and will integrate with MSI and SCP tools.

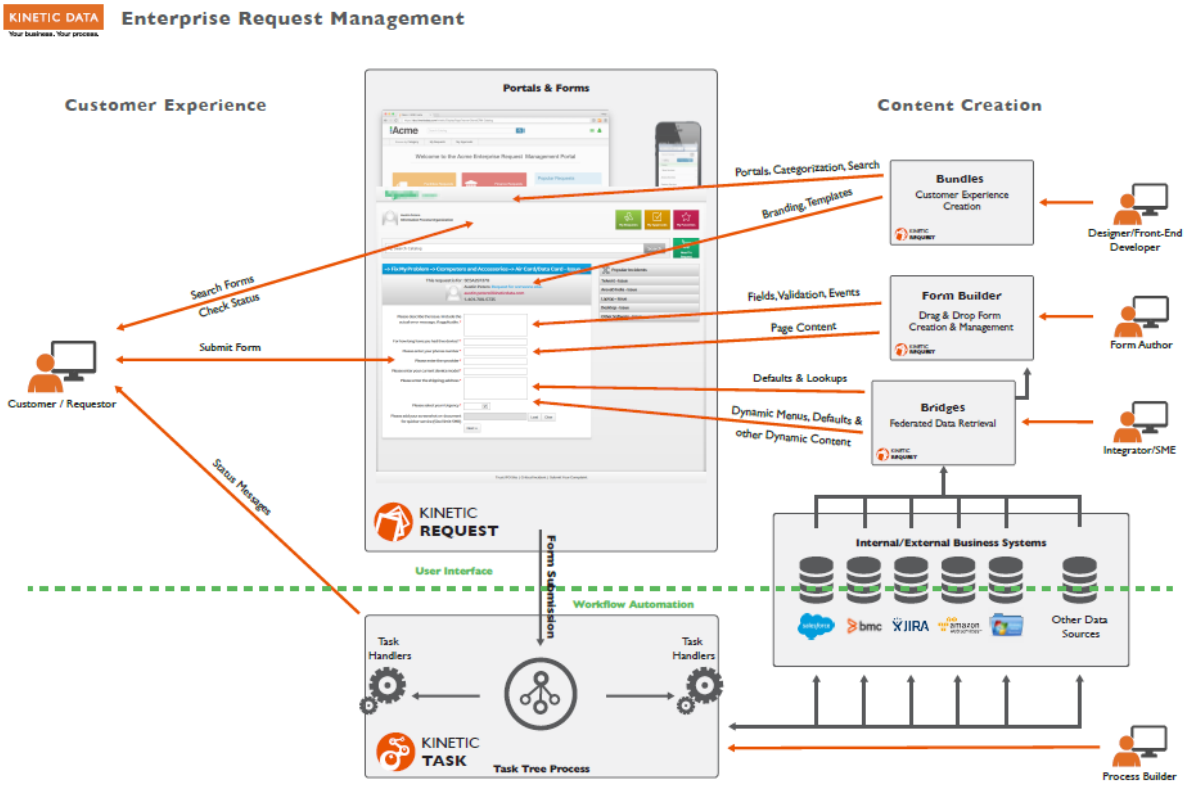
Marketplace Portal

- Improved user experience (UX) over current SRM tool
  - Increased DCS Customer satisfaction
  - Increased use of self-service
- Ability to quickly customize look/feel/content to enable accelerated evolution of DIR services
- Capgemini recommends conducting an RSW with DCS customers to gain design input and customer buy-in

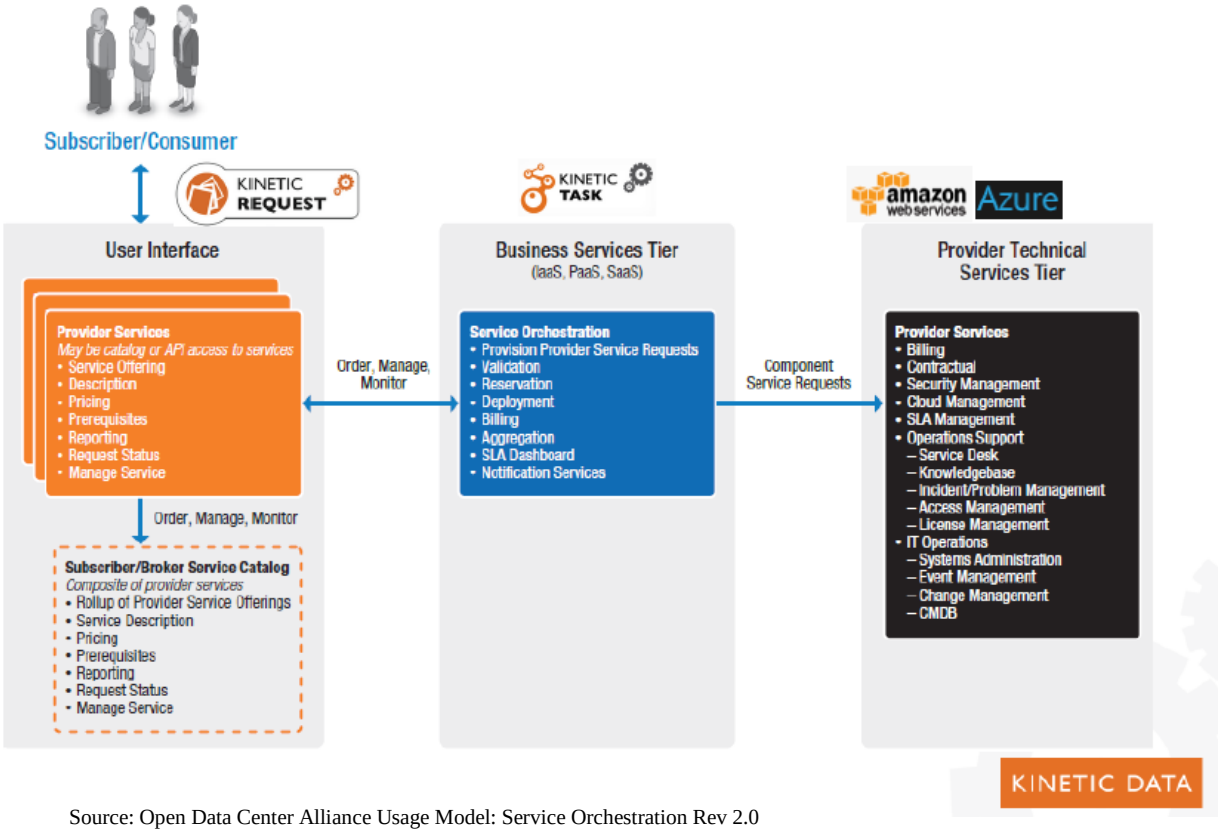
Kinetic Data will be the platform on which Marketplace is built. Two Kinetic products will be leveraged: Request and Task. This diagram depicts how these two products work together and with other systems.

Kinetic Data

The Kinetic Data platform will enable orchestration with the SCP for HCI, but provides flexibility to orchestrate directly with other providers in the future. Below is an illustrate view of how Kinetic Request works with Kinetic Task to manage cloud orchestration.



Logical Layers of Service Integration



Source: Open Data Center Alliance Usage Model: Service Orchestration Rev 2.0

3.1.2 Data Quality Management

The Data Quality Management function will be fulfilled through an implementation of a set of software tools from Blazent. Blazent is a market leader in IT data intelligence. The Blazent Data Intelligence Platform is powered by its big data engine and patent pending 5-step Data Evolution Process. The platform transforms and validates IT data, enabling enterprises and managed service providers to make business decisions based upon complete and accurate data.

By leveraging a Data Quality Management solution, DIR can maximize IT data intelligence, while minimizing the cost and effort associated with managing their data and the CMDB. The right solution enables DIR and their supplier eco-system to employ automated, powerful, master data management services for the CMDB. The table below depicts the Blazent software tools that are included in this proposal.

Blazent Product	Summary
Data Intelligence Platform	▪ The Blazent Data Intelligence Platform driven by the patented Data Evolution Process ▪ The Data Intelligence Platform is Blazent's big data engine, architected to provide flexibility, performance and scalability to needed for big data processing ▪ Blazent Data Intelligence Platform includes Apache Hadoop, Spark and a Machine Learning Library, the big data engine processes; stores retains history of massive data sets while providing near real-time analytics
Data Quality Management	▪ Reconciles multiple data sources to create user-configured "Gold Records" ▪ Performs identity management, relationship analysis, and purification of each CI ▪ Analyzes attributes, relationships, and status ▪ Manages all aspects of IT data quality ▪ Atomizes, cleanses, normalizes, and aligns ▪ Records and store all historical artifacts
Data Explorer	▪ At-a-glance view allows users to make fast data driven decisions for business objectives ▪ One click drill-down powers immediate corrective actions to resolve issues ▪ Intuitive interface enables easy configuration of role-based custom dashboards ▪ Enables ability to create analytics around custom attributes
Governance, Lifecycle Operational Validation, Expenditure (GLOVE)	▪ Manages billing governance of assets under management for both MSI and SCPs ▪ Determine errors in lifecycle governance with continuous analytics ▪ Visualize the true lifecycle status of billed or allocated entities ▪ Effectively govern key auditable areas such as correct lifecycle status, account expenditures and assignment

3.2 Tools Integration

Several points of integration will be required in order to enable HCI. Below have been identified to-date. Specific design of integration will be completed during program execution.

Integration Point A	Integration Point B	Comments
Marketplace	SCP Orchestration Tool	▪ Order information ▪ Status of order
ITFM (or staging point)	SCP Orchestration Tool	▪ Billing data (usage, pricing)
Pricing update from Marketplace	SCP Orchestration Tool	▪ Catalog pricing information
ITSM	Marketplace	▪ Fulfillment ticket status ▪ CMDB status ▪ Status of order

3.3 Impacted Tools

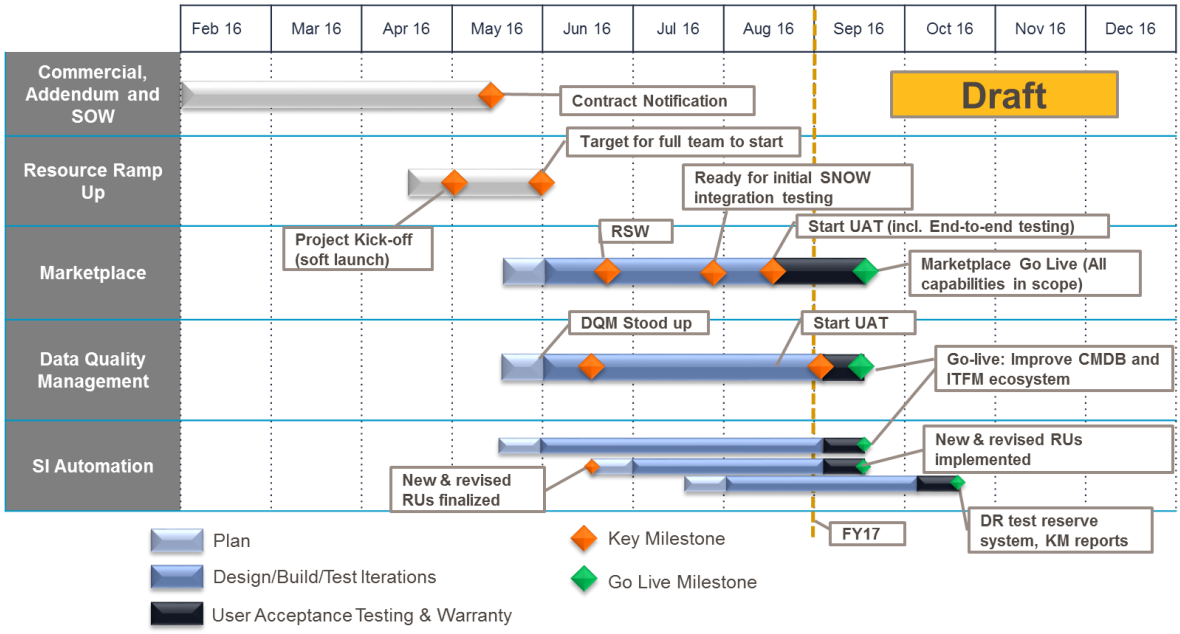
The HCI enabling initiatives will impact existing tools. Major disruptions to existing operations are not expected during the cutover of changes. There will, however, be a need to freeze new enhancements to existing systems previous to launching HCI changes. The impacted systems and timing will be specifically determined during program execution.

Impacted System	Comments
ITSM – CMDB, Request, Service Catalog, etc.	Improve the CMDB ecosystem
ITFM – Chargeback/Invoicing	Enable billing for new cloud services
SRDB – Database to integrate all data sources	Improve the process
DCS Portal	Add a link to Marketplace
SSO	Integrate with Marketplace
ServiceFlow	Implement HCI changes

4.0 Timeline

4.1 Durations and Milestones

The timeline and milestones are shown in the following diagram, as well as when functionality will be delivered. Note: this timeline is subject to change depending on start date.



4.2 Key Tasks

Number	Initiative	Description
1	Overall	Project Kicked off
2	Overall	Define Project Charter, including roles & responsibilities (named resources), core team, escalation path, etc.
3	Overall	Define and agree upon scope change management process
4	Overall	Ramp up resources
5	Marketplace	Business requirements completed
6	Marketplace	Infrastructure of staging environment stood up
7	Marketplace	Software installed
8	Marketplace	Rapid Solution Workshop

Number	Initiative	Description
9	Marketplace	Marketplace User Interface Design
10	Marketplace	Service Catalog Design & Build
11	Marketplace	Approval Engine Design & Build
12	Marketplace	Notification Engine Design & Build
13	Marketplace	Pricing Engine Design & Build
14	Marketplace	Code / Configuration tested
15	Marketplace	Integration components built and tested
16	Marketplace	User Acceptance Testing
17	Marketplace	End-to-End UAT
18	Marketplace	Production cutover completed
19	Marketplace	SMM documents revised
20	Marketplace	Training completed
21	Marketplace	Project closed
22	Data Quality Management	Project Kicked off
23	Data Quality Management	Business requirements completed
24	Data Quality Management	SaaS environment stood up
25	Data Quality Management	Business rules configured
26	Data Quality Management	Atrium CMDB data connector tested
27	Data Quality Management	ADDM data connector tested
28	Data Quality Management	TXDCS AD data connector tested
29	Data Quality Management	Reports built and tested
30	Data Quality Management	UAT complete
31	Data Quality Management	Production cutover completed
32	Data Quality Management	SMM documents revised
33	Data Quality Management	Training completed
34	Data Quality Management	Project closed
35	SI Automation	Project Kicked off
36	SI Automation	Business requirements completed
37	SI Automation	New & revised RUs defined and finalized
38	SI Automation	New & revised RUs implemented
39	SI Automation	Atrium CMDB data connector built

Number	Initiative	Description
40	SI Automation	ADDM data connector built
41	SI Automation	TXDCS AD data connector built
42	SI Automation	DR test reserve system implemented
43	SI Automation	Knowledge Management Reports implemented
44	SI Automation	SMM documents revised
45	SI Automation	Training completed
46	SI Automation	Project closed

5.0 Assumptions and Dependencies

5.1 Assumptions

Following is a list of the specific assumptions upon which our new solution framework and the service level changes are based:

- Current MSI RU structure to be utilized, with the addition of 3 new discreet optional RUs.
- All parties must execute to key milestones per the integrated timeline in order to deliver the HCI solution by the committed date.
- The MSI will make every attempt to absorb the work associated with onboarding a new DCS Customer, new Service, or a new SCP with base staff. If the work cannot be absorbed or if the skills required are not in the current base staff, the MSI will work with DIR to determine the most practical and economical path forward. This may include reprioritizing current discretionary work, repurposing staff, and/or funding the staff at rate card rates.
- The SCP will provide any changes in status to the CI (e.,g., CMDB changes) as well as usage / pricing / billing / SLA / electronically discovered data in a timely manner in the designated format as requested by MSI.
- The number of new cloud services provided in the Marketplace will be determined by further design sessions.
- DIR will provide contract performance adherence for MSI service reductions.
- DIR will review and approve SMM changes resulting from the service reductions outlined in the HCI Updates section of the SOW. SCPs will be advised of these SMM updates, but their approval will not be required for the MSI service reduction updates.
- MSI service reductions will result in SCP self-managing components of the following services: billing, invoicing, software renewals, incident management, major incident management, problem management, and entering / updating tickets.
- For ticket breaches, MSI exceptions will be approved without MSI providing SLA breach reminders via Email or phone to SCP.

5.2 Dependencies

- The nature of the final, detailed solution and the timing in which this solution is completed and agreed upon by DIR, Capgemini and Atos is dependent on detailed design during the project design phase.
- Timely sign-off of key requirements.
- Design and requirements of services offered in the Marketplace service catalog.
- Cooperation with all parties regarding integration and testing.
- Development will be, in part, done with offshore (Poland) resources. No SoT data will be used in any offshore activity. Completed code will be migrated to onshore instances and UAT will be conducted onshore. Any testing done offshore will utilize “mock” data.
- Development of business rules for new services require adequate participation per established governance processes.
- Data required for aspects of future dashboard development is dependent on data from SCP.

- Data required from the SCP to update the CMDB as well as usage / pricing / billing / SLA / electronically discovered data in a timely manner in the designated format as requested by MSI.

5.3 Risks

- Resource ramping might take longer than expected and could impact timelines.

6.0 RACI Matrix

Included within the HCI Transition project plan.

7.0 Process Documentation

7.1 Impact on Existing MSI Operational Processes

The HCI program will result in MSI service reductions. These service reductions are noted in **CAP_Attachment 8-B_HCI Technical Solution, Section 9.1, HCI Updates**. Many of these service reductions are detailed in the Service Management Manual (SMM), which will be updated during the HCI transition. SMM updates which reflect the changes in **CAP_Attachment 8-B_HCI Technical Solution, Section 9.1, HCI Updates** will be provided by the MSI to DIR for review and approval. SCPs will be informed of these SMM updates, but their approval will not be required.

MSI service reductions will result in SCP self-managing components of the following services: billing, invoicing, software renewals, incident management, major incident management, problem management, and entering / updating tickets. DIR will ensure that SCP contract revisions reflect the MSI service reductions.

The solution will enable automation to facilitate data trend analysis, data feeds, CMDB updates and reporting.

7.2 SLA Adjustments

Retain existing SLA structure, with the understanding that DIR will modify the exception criteria for Shared and Related SLAs. For ticket breaches, MSI exceptions will be approved without Service Provider providing SLA breach reminders via Email or phone to SCP.

CMDB Reconciliation SLAs for Network, Data Center, Mainframe, and Print-Mail will be removed beginning Fiscal Year 2017 as part of the service reduction opportunities.

CMDB Reconciliation SLAs for Server and Enterprise will continue to be reported; the SMM will be updated to specify the SLA will measure additional electronically-discovered attributes.

The thresholds for the Portal Performance SLA will be analyzed and adjusted (as needed) after the new tools have become operational and monitored for at least 3 months.

A Shared Availability SLA will be added September 2016 to measure availability for the semi-managed option.

8.0 Training

Marketplace training:

- User training (reference materials)
- Training sessions will be provided to DCS Customers as needed

We expect the Marketplace will be very intuitive hence will not require extensive hands-on training.

9.0 Confirmation of Investments and Cost Reductions

Solution and Services Summary:

- DIR will accept the Capgemini HCI solution as outlined in the latest iteration of **CAP_Attachment 8-B_HCI Technical Solution**.
- DIR has agreed to accept the MSI service reductions reflected in **CAP_Attachment 8-B_HCI Technical Solution, Section 9.1, HCI Updates**.
- DIR has agreed to accept additional cost reductions to vacate the downtown office and reduce the scope of the annual ASEs.

Cost Summary:

- DIR has agreed to service reductions for a value of $1m
- DIR has agreed to reduce additional costs of ASEs and location of Capgemini office for additional value of $400k
- DIR has agreed to provide a payment to support the implementation of the Marketplace solution of $250k
- Capgemini has agreed to provide an investment to the Marketplace solution as a good faith effort of $750k.

9.1 HCI Updates

The HCI program will result in MSI service reductions and leveraging shared resources. Many of these service reductions are detailed in the Service Management Manual (SMM), which will be updated during the HCI transition. SMM updates which reflect the changes in **CAP_Attachment 8-B_HCI Technical Solution, Section 9.1, HCI Updates** will be provided by the MSI to DIR for review and approval. SCPs will be advised of these SMM updates, but their approval will not be required for the MSI service reduction updates. HCI updates are as follows:

9.1.1 Service Desk

- The SCPs will use the tools available to them to initiate, update, and resolve tickets instead of contacting (phone, Email, instant message, etc.) the Service Desk.

9.1.2 Incident Management

- The SCPs will use the tools available to them to code tickets with the correct information as specified in the SMM and training curriculum.
- The SCPs will use the tools available to them to update tickets with the correct information in a timely manner.
- The SCP is responsible for timely submission of SLA exception requests.
- MSI will notify SCP with automated alerts prior to SLA ticket breach. MSI will not provide SLA breach reminders via Email or phone for Incidents or Work Orders. For ticket breaches, MSI exceptions will be approved without MSI providing SLA breach reminders via Email or phone to SCP.

9.1.3 Major Incident Management

- The SCPs will use the tools available to them to code tickets with the correct information as specified in the SMM and training curriculum.
- The SCPs will use the tools available to them to update tickets with the correct information in a timely manner.
- The SCP is responsible for timely submission of SLA exception requests.
- MSI will notify SCP with automated alerts prior to SLA ticket breach. MSI will not provide SLA breach reminders via Email or phone. For ticket breaches, MSI exceptions will be approved without MSI providing SLA breach reminders via Email or phone to SCP. MIMs will remain fully engaged during all MIRTs, including providing MIM communications.

9.1.4 Problem Management

- MSI will notify SCP with automated alerts for RCAs prior to SLA ticket breach. MSI will not provide SLA breach reminders via Email or phone for RCAs and Corrective Actions. For ticket breaches, MSI exceptions will be approved without MSI providing SLA breach reminders via Email or phone to SCP.

9.1.5 Change Management

- CAB meetings will only be conducted if there are risk level 1, 2, or 3 changes.
- Communications for all change risk levels will continue as specified in the SMM.
- Only emergency changes are allowed outside of the weekly CAB cycle. Expedited changes will be limited.
- Establish standard change windows per DCS Customer.
- Establish standard enterprise change windows.

9.1.6 Configuration Management

- The SCP is responsible for timely renewing software. MSI will continue to provide SCP with a report of the upcoming renewals. MSI will eliminate the weekly software renewal status meetings, and will not provide SLA breach reminders via Email or phone for software renewals. For ticket breaches, MSI exceptions will be approved without MSI providing SLA breach reminders via Email or phone to SCP.
- Annual MSI CMDB Configuration Item Reconciliation deliverable is no longer required. MSI will not conduct any coordination, oversight, or validation for the SCP CMDB Configuration Item Reconciliation deliverable.
- CMDB Reconciliation SLAs are deleted for Network, Data Center, Mainframe, and Print-Mail. SCP contracts will be updated to reflect deletion of these CMDB Reconciliation SLAs.
- Annual MSI physical inventory activities are no longer required. MSI will not conduct any coordination, oversight, or validation for the SCP annual physical inventory.
- DCS Customers are required to update a predefined set of CMDB data via web form; the set of CMDB data that DCS Customers are required to update will be maintained in the SMM.

9.1.7 Capacity Management

- Enterprise Capacity Plans will be delivered annually instead of quarterly. SCP contracts will be updated to reflect that Capacity Plans are only delivered annually.
- DCS Customer Capacity Plans will be delivered annually instead of quarterly. SCP contracts will be updated to reflect that Capacity Plans are only delivered annually.

9.1.8 Availability Management

- Enterprise Availability Plans will be delivered annually instead of quarterly.
- DCS Customer Availability Plans will be delivered annually instead of quarterly.

9.1.9 IT Service Continuity Management

MSI will develop an Annual DR Test Plan and Schedule that will be delivered each June for the upcoming fiscal year. The following DR exercises will be included in the Annual DR Test Plan and Schedule:

- DCS Customer full DR exercises
- DCS Customer tabletop DR exercises
- Enterprise tabletop for all Class 3 instances
- Mainframe full DR exercises for both ADC and SDC; these exercises are conducted at different times during the year. DCS Customers can align their test slot with the Mainframe DR exercises.

- Enterprise Print-Mail full DR exercises for both ADC and SDC. These tests are typically conducted in conjunction with the Mainframe DR exercises.
- Enterprise Consolidated Data Center tabletop DR exercise for both ADC and SDC combined. This exercise encompasses all Service Components.

DCS Customer Test Slots:

- MSI will develop an Annual DR Test Plan and Schedule that will be limited to one full DR exercise test slot and one tabletop DR exercise test slot per DCS Customer.
- After annual planning, the testing schedule and test slots can only be changed throughout the year by mutual agreement between DIR, SCP, and MSI.
- MSI will provide an annual DCS Customer DR plan update for each DCS Customer.
- A test slot lasts up to 1 week (7 calendar days).
- Full DR exercises are standard for Class P, Class 1, and Class 8 applications.
- All of the DCS Customer Class P, Class 1, and Class 8 applications are eligible to be tested in the full DR exercise test slot.
- If the Integrated Test Lab (ITL) does not have sufficient capacity to support the applications within the full DR exercise test slot, then additional test slots will be made available to the DCS Customer.
- DCS Customers are expected to fully use the ITL capacity in order to limit the number of test slots.

9.1.10 IT Financial Management

The SCP is responsible for timely dispute resolution. MSI will notify SCP with automated alerts prior to SLA ticket breach. MSI will eliminate the weekly dispute status meetings, and will not provide SLA breach reminders via Email or phone for invoice disputes. For ticket breaches, MSI exceptions will be approved without MSI providing SLA breach reminders via Email or phone to SCP.